

## Claims

What is claimed is:

- [c1] A method for applying a target reflector to an object for photogrammetric analysis, comprising:
  - mixing a diffuse material with a solvent;
  - applying the diffuse material and the solvent to the surface of the object so that the diffuse material bonds with the surface of the object; and
  - applying a reflective coating to the surface of the object, where the diffuse material forms a target reflector.
- [c2] The method of claim 1, where the object comprises a thin film polymer membrane.
- [c3] The method of claim 2, where the polymer membrane has a thickness between 1.0 and 25.0 microns.
- [c4] The method of claim 2, where diffuse material comprises fibers of the same polymer as the membrane.
- [c5] The method of claim 1, where the diffuse material comprises micro-beads.
- [c6] The method of claim 5, where the micro-beads are made of glass.
- [c7] The method of claim 1, where the diffuse material bonds with the surface of the object by melting.
- [c8] The method of claim 1, where the diffuse material comprises a luminous material.
- [c9] The method of claim 1, where the reflective coating is a reflective metallized coating.

- [c10] The method of claim 9, where the reflective metallized coating is an evaporative material.
- [c11] The method of claim 9, where the reflective metallized coating comprises aluminum.
- [c12] The method of claim 9, where the reflective metallized coating comprises aluminum.
- [c13] The method of claim 9, where the reflective metallized coating comprises gold.
- [c14] The method of claim 9, where the reflective metallized coating comprises silver.
- [c15] The method of claim 9, where the reflective metallized coating comprises germanium.
- [c16] The method of claim 9, where the reflective metallized coating comprises chromium.
- [c17] The method of claim 9, where the reflective metallized coating has a thickness of between 200 – 1200 Angstroms.
- [c18] The method of claim 1, where the diffuse material and the solvent are applied with a jet sprayer.
- [c19] The method of claim 1, where the diffuse material and the solvent are applied through a template that is overlayed on the surface of the object.
- [c20] A method for applying a target reflector to an object for photogrammetric analysis, comprising:
  - step for applying a diffuse material to the surface of the object; and
  - step for applying a reflective material over the surface of the object.

- [c21] A method for applying a target reflector to an object for photogrammetric analysis, comprising:
- applying a reflective coating to the surface of the object; and
  - forming the target reflector on the reflective coating by chemical etching.
- [c22] A method for applying a target reflector to an object for photogrammetric analysis, comprising:
- applying a reflective coating to the surface of the object; and
  - forming the target reflector on the reflective coating by laser etching.
- [c23] A method for applying a target reflector to an object for photogrammetric analysis, comprising:
- applying a reflective coating to the surface of the object; and
  - forming the target reflector on the reflective coating by mechanical abrasion.
- [c24] A method for applying a target reflector to an object for photogrammetric analysis, comprising:
- casting a diffuse material in a film;
  - punching segments of the diffuse material from the film and onto to the surface of the object, where the segments of diffuse material are held in place with adhesive; and
  - applying a layer of reflective metallized coating to the surface of the object, where the segments of diffuse material form target reflectors on the surface of the object.
- [c25] A method for applying a target reflector to an object for photogrammetric analysis, comprising:
- applying a liquid solution of membrane material to a substrate, where the substrate has at least one diffuse areas on its surface;
  - curing the liquid solution of membrane material to form a membrane, where the diffuse area of the substrate form a diffuse area in the membrane;

removing the membrane from the substrate; and  
applying a reflective coating to the surface of the object, where the diffuse area of the membrane forms a target reflector.

**[c26]** A method for applying a target reflector to an object for photogrammetric analysis, comprising:

step for forming a diffuse area on a membrane that casts the object; and  
step for applying a reflective material over the membrane so that a target reflector is formed on the object.